PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT	:	D. Hiller
SERIAL NO.	:	09/457,420
FILED	:	December 7, 1999
FOR	:	METHOD AND APPARATUS FOR PROCESSING INTERNET SITE NAMES THROUGH REGULAR EXPRESSION COMPARISON
GROUP ART UNIT	:	2152
EXAMINER	:	Nguyen, Chau T.

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ATTENTION: Board of Patent Appeals and Interferences

APPELLANT'S BRIEF

SIR:

This brief is in furtherance of the Notice of Appeal, filed in this case on October 24,

2003.

1. REAL PARTY IN INTEREST

The real party in interest in this matter is First Aura, LLC.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals.

3. STATUS OF THE CLAIMS

Claims 1-17 are pending in this application.

Claims 1-3, 9, and 10-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,185,598 to Farber et al. ("Farber") in view of U.S. Patent No. 6,345,361 to Jerger et al. ("Jerger"). Claims 4-8 and 13-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Farber and Jerger and further in view of U.S. Patent No. 6,338,082 to Schneider ("Schneider").

4. STATUS OF AMENDMENTS

There are no un-entered amendments.

5. SUMMARY OF THE INVENTION

According to an embodiment of the present invention, a Domain Name Server is modified so as to use a regular expression in the comparison between a requested site name and a series of similar site names (whether actual or potential) associated with a computer system.

Referring to Fig. 2, an example of a method of the present invention is shown. In block 21, a normal name lookup is performed where the first site name is compared to the site names that are stored at the DNS 17. At decision block 23 it is determined whether a match has been found. If one has, control passes to block 24 where an appropriate response is sent by the DNS 17 to first computer system 11. If no match is found, control passes to decision block 25 where

it is determined whether regular expression comparisons are enabled at the DNS 17. If they are not, then control passes to block 26 where an "unfound" message or the like is sent back to first computer system 11 (Fig. 1).

In one embodiment, regular expression comparisons may be enabled, and control passes to block 27 where a first regular expression is retrieved (e.g., from memory at DNS 17). The first regular expression can have a form such as $^\wedge\backslash d\{10\}\$.X.Y$ where $^\wedge\backslash d\{10\}\$$ represents a string of ten numbers, X represents a sub-level domain (e.g. "firstaura"), and Y represents a top-level domain ("com" in this example). An alternative regular expression could be $^\wedge[0\text{-}9]+\$.X.Y$ where $^\wedge[0\text{-}9]+\$$ represents a string of numbers (each between 0 and 9). In block 29 a comparison is made between the first site name and the regular expression. Such a comparison can be done, for example using a comparison procedure such as that which is used in the UNIX operating system. In decision block 31, it is determined whether there is a match. If there is, then control passes to block 33 where a good response is sent to first computer system 11 with an appropriate Internet Protocol (IP) address. If there is not a match, then control passes to decision block 35 to determine whether other regular expressions exist. If there are no additional regular expressions present at DNS 17, then control passes to block 26 where an "unfound" message or the like is sent to computer system 11. If there are additional regular expressions, then control passes to block 37 to retrieve the next regular expression and pass control to block 29 to perform the next comparison.

6. ISSUES

A. Are claims 1-3, 9, and 10-12 unpatentable over U.S. Patent No. 6,185,598 to Farber et al. ("Farber") in view of U.S. Patent No. 6,345,361 to Jerger et al. ("Jerger")?

B. Are claims 4-8 and 13-17 unpatentable over Farber and Jerger and further in view of U.S. Patent No. 6,338,082 to Schneider ("Schneider")?

7. GROUPING OF CLAIMS

Claims 1-17 may be grouped together for the purpose of this appeal only.

8. ARGUMENT

A. Legal Background

Under 35 U.S.C. § 102(b), a claim is invalid if the invention claimed therein is described in a patent issuing more than one year prior to the filing of the subject patent application. Though a patent reference may have issued early enough, that reference must also enable one skilled in the art to practice the claimed invention. See Akzo N.V. v. U.S. Int'l Trade Comm'n, 1 U.S.P.Q.2d (BNA) 1241, 1245 (Fed. Cir. 1986).

Absent anticipation it may be possible to combine two or more patents together to render a claimed invention obvious, and unpatentable, under 35 U.S.C. § 103(a). In determining whether the claims are unpatentable it is necessary to look to what the references actually teach. "It is impermissible within the framework of § 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In Re Wesslau, 147 U.S.P.Q. (BNA) 391, 393 (C.C.P.A. 1965). Accordingly, a prior art reference must be considered in its entirety, and portions thereof must be taken in proper context. MPEP § 2141.02; Bausch & Lomb, Inc. v. Barnes-Hind, Inc., 230 U.S.P.Q. (BNA) 416, 419 (Fed. Cir. 1986).

C.   Arguments

The pending independent claims (claims 1, 9 and 10) each refer to performing a regular expression comparison at a Domain Name Server in accordance with embodiments of the present invention. As shown below, neither the Farber, Jerger nor Schneider references teach or suggest the methods and apparatus recited in these claims.

Farber, Jerger and Schneider, taken singularly or in combination, fail to teach or suggest performing regular expression comparisons with an Internet site name to identify an IP address for multiple similar site names at a Domain Name Server or DNS. Moreover, there is no suggestion in the current Internet network or domain-name registration systems to perform regular expression comparison in a DNS.

A good overview of the DNS system may be found in Chapter 1 of DNS and BIND by Paul Albitz & Cricket Liu (ISBN 1-56592-512-2). DNS lookups are performed in a hierarchical fashion. There are 13 well-known domain name servers distributed throughout the world. They are named A.ROOT-SERVERS.NET through M.ROOT-SERVERS.NET. All requests begin with one of these name servers. These name servers reply with the list of name servers to handle top level domains (TLDs). These TLDs are the commonly known ones like com, edu, gov, mil, and net along with the two character country codes and the newer ones like biz and info. The TLDs are controlled by a government-sponsored organization known as ICANN and the root name servers are managed by Network Solutions (now Verisign). Because these TLDs are so closely controlled, the root name servers would never have a need to use a regular expression search.

The second level domain names, like ibm.com, cisco.com, uspto.gov were originally

licensed to users by Network Solutions. To increase competition, Network Solutions was required to split into two logical organizations, the registry and the registrar. The registry would maintain all of the .com, .edu, and .net name servers and would charge a relatively low fee for each name to the registrar. This permitted additional registrars like register.com and godaddy.com to compete for registration fees. Since the registrars are being paid on a per name per year basis, they have no incentive to provide an easy mechanism for claiming a large number of names with a single entry. Therefore, they would never have a financial incentive, in fact they have a financial disincentive, to use a regular expression search.

Taking claim 1 as an example, the first operation is "retrieving a regular expression stored at a Domain Name Server;" the second operation is "performing a comparison between a first Internet site name and the regular expression at the Domain Name Server ...." The current Office Action states that these features can be found in Cols. 7 and 8 of Farber. Applicant has already presented arguments as to why these features are not found in Farber. The Examiner has not addressed these arguments at all, thus far in the prosecution of this application.

Farber refers to a system for handling resource requests made by clients in a network. Cols. 7 and 8 and Col. 22, lines 37-63 describe the generation of a resource identifier by a client computer that is sent to a Domain Name Server to look up the network address corresponding to the identifier. The client computer then generates a GET request. The GET request includes a requested resource, but it is noted that this request does not include an Internet site name (e.g., www.generic.com), but only the paths to be accessed in the computer system associated with network address returned by the DNS earlier. This GET request from the client computer is sent to a reflector 108 (see Fig. 1), which performs a regular expression comparison. Col. 8, lines 1-8 are provided below:

"B2. If the request is not from a repeater, the reflector looks

up the requested resource in a table (called the "rule base")

to determine whether the resource requested is

"repeatable." Based on this determination, the reflector

either reflects the request (B3, described below) or serves

the request locally (B4, described below).

The rule base is a list of regular expressions and associated

attributes."

The reflector 108 is not a Domain Name Server. It is noted that the term "Domain Name Server"

is used at Col. 7, lines 6-7, which is part of an example that does not use the reflector described

above. Col. 7, lines 10-24 describe a separate component, called the "origin server," a

component different from the Domain Name Server (see Col. 7, lines 5-14). At Col. 7, lines 45-

46, Farber states that the origin server referred to in items A3-A7 (i.e., Col. 7, lines 10-24) is the

reflector. Also, Col. 22, lines 10-12 describe the reflector and DNS as different components.

The inescapable conclusion is that the retrieving and comparison operations recited in claim 1

(with similar limitations in claims 9 and 10) are not performed in the Domain Name Server in

Farber. Thus, these features are neither shown nor suggested by Farber.

Jerger fails to make up for the deficiencies of Farber. Jerger refers to directional set

operations for permission based security in a computer system. Referring to Col. 17, lines 50-67,

Jerger refers to the use of wildcard characters to specify multiple domain names. The

comparisons using such wild card characters is performed by the Internet security manager 222.

Referring to Fig. 2, it is clear that the Internet security manager 222 operates as part of a browser 203 on a local personal computer. A Domain Name Server would be a different component coupled, for example to the wide area network 152. Accordingly, Jerger fails to teach or suggest that the retrieval and comparison operations of the claims are performed at a Domain Name Server.

Schneider fails to make up for the deficiencies of Farber and Jerger. Schneider, which refers to requesting network resources over the Internet, refers to the arrangement of DNS servers to resolve URL identifiers. As mentioned at Col. 3, lines 4-38 and Col. 9, lines 45-56, these servers are typically UNIX-based servers that may be arranged in a hierarchical, distributed manner. The comparisons performed in the Domain Name Servers of Schneider do not use regular expression comparisons.

In view of the above, the rejection of claims 1-17 under 35 U.S.C. § 103(a) is in error and should be reversed on this appeal.

9.   CONCLUSION

Appellant respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's decision rejecting claims 1-17 under 35 U.S.C. § 103(a) and direct the Examiner to pass the case to issue.

The Commissioner is hereby authorized to charge the appeal brief fee of $165.00 and any additional fees which may be necessary for consideration of this paper to Kenyon & Kenyon Deposit Account No. 11-0600. A copy of this sheet is enclosed for that purpose.

Respectfully submitted,

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APPENDIX

(Brief of Appellant Dean Hiller

U.S. Patent Application Serial No. 09/457,420)

CLAIMS ON APPEAL

The claims in their current form are presented below:

1.   A method of processing an Internet site name comprising:

retrieving a regular expression stored at a Domain Name Server;

and

performing a comparison between a first Internet site name and the

regular expression at the Domain Name Server to identify an Internet Protocol

address for multiple similar site names.

2.   The method of claim 1 further comprising:

transmitting said first Internet site name from a first computer system to said

Domain Name Server over the Internet.

3.   The method of claim 2 further comprising:

transmitting a responsive message to said first computer system if a match is

found in said regular expression comparison.

4. The method of claim 1 wherein said regular expression uses a UNIX regular expression format.

5. The method of claim 4 wherein said regular expression has a format $^\wedge\backslash d\{10\}\$.X.Y$ where $^\wedge\backslash d\{10\}\$$ represents a string of ten numbers, X represents a sub-level domain and Y represents a top-level domain.

6. The method of claim 4 wherein said regular expression has a format $^\wedge[0-9]+\$.X.Y$ where $^\wedge[0-9]+\$$ represents a string of numbers, X represents a sub-level domain and Y represents a top-level domain.

7. The method of claim 4 wherein said regular expression has a format $^\wedge\backslash d\{10\}\$.Z$ where $^\wedge\backslash d\{10\}\$$ represents a string of ten numbers, and Z represents a geographically oriented top-level domain.

8. The method of claim 4 wherein said regular expression has a format $^\wedge[0-9]+\$.Z$ where $^\wedge[0-9]+\$$ represents a string of numbers, and Z represents a geographically oriented top-level domain.

9. An apparatus for processing an Internet site name comprising:

a Domain Name Server adapted to retrieve a regular expression stored therein and

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perform a comparison between a first Internet site name and the regular expression to identify an Internet Protocol address for multiple similar site names.

10.   A set of instructions residing in a storage medium, said set of instructions capable of being executed by a processor to implement a method of processing an Internet site name, the method comprising:

retrieving a regular expression stored at a Domain Name Server;

and

performing a comparison between a first Internet site name and the regular expression at the Domain Name Server to identify an Internet Protocol address for multiple similar site names.

11.   The set of instructions of claim 10, the method further comprising:

transmitting said first Internet site name from a first computer system to said Domain Name Server over the Internet.

12.   The set of instructions of claim 11, the method further comprising:

transmitting a responsive message to said first computer system if a match is found in said regular expression comparison.

13.   The set of instructions of claim 10 wherein said regular expression uses a UNIX regular expression format.

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14.   The set of instructions of claim 13 wherein said regular expression has a format ^\d{10}$.X.Y where ^\d{10}$ represents a string of ten numbers, X represents a sub-level domain and Y represents a top-level domain.

15.   The set of instructions of claim 13 wherein said regular expression has a format ^[0-9]+$.X.Y where ^[0-9]+$ represents a string of numbers, X represents a sub-level domain and Y represents a top-level domain.

16.   The set of instructions of claim 13 wherein said regular expression has a format ^\d{10}$.Z where ^\d{10}$ represents a string of ten numbers, and Z represents a geographically oriented top-level domain.

17.   The set of instructions of claim 13 wherein said regular expression has a format ^[0-9]+$.Z where ^[0-9]+$ represents a string of numbers, and Z represents a geographically oriented top-level domain.